REMARKS

Claims 1-8, 10-15, 17-23, and 27 are currently pending in the subject application and are presently under consideration. Claims 1, 15, 23 and 27 have been amended as shown on pp. 3 and 5-7 of the Reply. In addition, the specification has been amended as indicated on p. 2. Applicants' representative thanks the Examiner for the courtesies extended during the telephone conversation of May 15, 2007, wherein the Examiner indicated that the amendments made herein places the subject application in better condition for allowance.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 14 and 23 Under 35 U.S.C. §101

Claims 14 and 23 stand rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Withdrawal of this rejection is requested for at least the following reasons. The language in the specification has been amended herein to remedy the purported ambiguity identified by the Examiner. Accordingly, this rejection is moot and withdrawal of the rejection is respectfully requested.

II. Rejection of Claims 1-8, 10-15, 17-23 and 27 Under 35 U.S.C §112

Claims 1-8, 10-15, 17-23 and 27 stand rejected under 35 U.S.C §112, first paragraph, as failing to comply with the enablement requirement. This rejection should be withdrawn for at least the following reasons.

Applicants' subject matter teaches a system that employs application developer coded extensible proxies that have access to method interception and remote functionality and data. The system, unlike conventional systems, includes an application code generic proxy that can receive an intercepted method call that can invoke the method on the object imaged by the proxy, that can receive results from the object imaged by the proxy, and that can pass results to the entity that generated the intercepted method call. In particular, the application code is employed in actions including, monitoring remote methods calls, caching local data, controlling remote method call invocations, and machine learning involved in optimizing remote method call invocation. The process of optimizing remote method invocation involves improving performance and efficiency.

For example, the application code generic proxy can determine an inquiry on a first remote object takes 60 seconds, while a response time of 5 seconds is desired. Thus, the proxy can acquire the result from a different remote object and compare the average response times to determine how more optimal response times can be achieved. (*See* page 12, lines 23-29). Yet another example relates to an environment where there may be more than one entity that can perform processing associated with the method call, wherein a customized proxy is coded by an application programmer to attempt load balancing between such entities. The customized proxy may perform processing to determine to which, if any, of the server computers, the method call should be routed. By way of illustration, during a first period of time the method caller may have generated one thousand method calls. The customized proxy, through proxy pre-processing and/or proxy post-processing, may have determined that nine hundred of the one thousand calls had been routed to server, and that one hundred of the calls routed to server had not been handled within an acceptable period of time. Thus, the customized proxy may decide to route a percentage of subsequent method calls from the method caller to a second server in an attempt to have a greater percentage of method calls handled with an acceptable period of time. By way of further illustration, the method caller may generate a method call that will consume significant resources on whatever server hosts the object that processes the method call. Thus, the customized proxy may query the servers, to determine which, if any, of the servers has sufficient resources to handle the resource intensive method call. The customized proxy may then select which, if any, of the servers will receive the method call. (*See* page 21, lines 5-26).

In the Office Action dated March 12, 2007, the Examiner asserts that the single example in the disclosure cannot be considered to be fully enabling of a limitation that broadly claims use of machine learning in general. Applicants' representative respectfully disagrees with the Examiner since the foregoing examples provide a method for machine learning to optimize remote method call invocation. The examples clearly indicate a method to improve performance and optimize remote method invocation. Furthermore, the application clearly identifies machine learning technologies associated with unconstrained optimization and/or minimization of error costs, such as, non-linear training systems/methodologies (*e.g.*, back propagation, Bayesian, fuzzy sets, non-linear regression, or other neural networking paradigms including mixture of experts, cerebella model arithmetic computers (CMACS), radial basis functions, directed search networks and function link networks. (*See* page 7, lines 15-20).

Thus, in view of the foregoing, the claims are supported by the specification, which when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. Accordingly, this rejection should be withdrawn.

III. Rejection of Claim 1 Under 35 U.S.C §112

Claim 1 stands rejected under 35 U.S.C §112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as invention. Withdrawal of this rejection is requested for at least the following reasons. Claim 1 has been amended to overcome this rejection with respect to antecedent basis.

IV. Rejection of Claims 1-8 and 9-14 Under 35 U.S.C. §103(a)

Claims 1-8 and 9-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold, *et al.* (US Patent 6,393,497) in view of Applicant's admitted prior art in further view of Clarke, *et al.* (US Publication 2002/0035642). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Arnold, *et al.*, Applicant's admitted prior art, and Clarke, *et al.*, alone or in combination, fail to teach or suggest each and every limitation of applicants' claimed invention.

> To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *See In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The claimed subject matter relates to a system that employs application developer coded extensible proxies that have access to method interception and remote functionality and data. In particular, independent claims 1 and 14 recite similar aspects namely, ***a method call interceptor accessible to application code***. Arnold, *et al.*, Applicant's admitted prior art, and Clarke, *et al.*, alone or in combination, do not teach this novel aspect.

Arnold, *et al.* relates to a system that utilizes a smart proxy as a wrapper around a stub in a distributed system. The system transmits a request for a object and receives a response to the request, which includes code that is employed to construct a representation of the requested object. The system creates the representation and employs it for processing calls to the object, local to the requesting object using the representation. Arnold, *et al.* does not teach or suggest a method call interceptor. Furthermore, Arnold, *et al.* is silent with respect to a method call interceptor that is accessible to application code.

Clarke, *et al.* relates to a system and method to control network traffic by employing an intermediary node, such as a proxy, that implements a flow control algorithm to avoid network congestion. The system includes a server that returns an error response when it receives a request that it cannot handle from the client. This response is passed back to the client *via* a proxy , which recognizes the response type and learns a back off time for the server. Incase a disparate client sends a request to the server, the proxy returns a back off signal to the disparate client and reduces the number of requests reaching the congested server. However, Clarke, *et al.* does not disclose a component, accessible to application code, that intercepts a method call and routes it to a proxy.

Applicants' admitted prior art clearly indicates that intercepting a method invoked on an object that is imaged by a proxy is conventionally performed by a system-level object system and is ***not accessible to application developers***. Similarly, data associated with the system-level object system is conventionally not available to application developers. (*See* page 1, lines 29-32).

Applicants' claimed subject specification, in contrast, discloses a system and method for interacting with an object where the system and method facilitate application developers creating proxies, accessing method call interception functionality, retrieving information associated with a method call that can be intercepted by the interception functionality and adapting and/or extending the functionality of object systems. The system includes a method call interceptor that intercepts a method call to an object and routes the method call to a proxy. Unlike conventional systems, ***the method call interceptor is accessible to application code***. The method call interceptor populates a message object with information associated with the intercepted method call. The message object is accessible to application code and the message object is populated with at least one of a method name, one or more input parameters, class/interface defining method data, a count of the number of input parameters, one or more type identifiers associated with the input parameters, a count of the number of return parameters for the method call, one or more type identifiers associated with the return parameters, a stack pointer and a heap pointer. (*See* page 3, lines 20-27). Arnold, *et al*., Applicants' admitted prior art and Clarke, *et al*., alone or in combination, fail to disclose a message object accessible to application code.

In view of at least the foregoing, it is readily apparent that Arnold, *et al*., Applicants' admitted prior art and Clarke, *et al*., alone or in combination, do not teach or suggest applicants' claimed subject matter as recited in independent claims 1 and 14 (and claims 2-13 which respectively depend there from)), and thus fails to make obvious the subject claimed invention. Accordingly, this rejection should be withdrawn.

V. Rejection of Claims 15 and 20-22 Under 35 U.S.C. §103(a)

Claims 15 and 20-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Colyer (US Patent 5,903,725) in view of Clarke, *et al.* (US Publication 2002/0035642). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Colyer and Clarke, *et al*., alone or in combination, fail to teach or suggest each and every limitation of applicants' claimed invention.

Independent claim 15, as amended, recites ***interception of a method call that is made accessible to a developer***. Colyer and Clarke, *et al*., alone or in combination, fail to disclose this novel aspect. Colyer relates to a system and method that protects a server against invalid usage of proxy objects by creating recoverable proxies. More specifically, the system transparently re-creates proxy objects in a client of a client-server distributed processing system. On malfunction of a server, and consequently invalidity of the proxy objects, a proxy register object causes all proxy objects to be refreshed. Colyer does not disclose a system or method that intercepts a method call ***and makes such an interception accessible to an application developer.***

As discussed *supra,* Clarke, *et al.* relates to a system and method to control network traffic by implementing a flow control algorithm in a proxy and does not disclose a method call interceptor is accessible to application code. Applicants' claimed subject matter, in contrast, provides a method to make an interception to a method call accessible to application code. By way of illustration, intercepting a method call and making such interception accessible to an application developer can include receiving control and receiving a data structure and/or object populated with information concerning the intercepted method call. The information can include, but is not limited to, method call process identification data, class/interface defining method data, method name data, data concerning the number of input parameters, data concerning the type of input parameters, data concerning the value of input parameters, data concerning the number of expected return parameters, data concerning the type of expected return parameters, stack pointer data and heap pointer data. (*See* page3, lines 1-9)

Therefore, it is readily apparent that Colyer and Clarke, *et al*., alone or in combination, do not teach or suggest applicants' claimed subject matter as recited in independent claim 15 (and claims 20-22 which respectively depend there from)), and thus fails to make obvious the subject claimed invention. Accordingly, this rejection should be withdrawn.

VI. Rejection of Claims 17-19, 23 and 27 Under 35 U.S.C. §103(a)

Claims 17-19, 23 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Colyer (US Patent 5,903,725) and Clarke, *et al.* (US Publication 2002/0035642) in view of Arnold, *et al.* (US Patent 6,393,497). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Colyer, Clarke, *et al.* and Arnold, *et al.*, alone or in combination, fail to teach or suggest each and every limitation of applicants' claimed invention.

Independent claims 15, 23 and 27 recite similar aspects of a method call interception being made accessible to a developer. As discussed above, Colyer and Clarke, *et al.*, alone or in combination do not disclose a system or method that intercepts a method call ***and makes such an interception accessible to an application developer.*** Furthermore, Arnold, *et al.* is silent with respect to a method call interceptor that is accessible to application code and fails to remedy the aforementioned deficiencies of Colyer and Clarke, *et al.*

Accordingly, in view of at least the foregoing withdrawal of the rejection of independent claims 23 and 27 (and claims 17-19 that depend from independent claim 15) is respectfully requested.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP243US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,
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